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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

HARVEY, DIONNE

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2643

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,886

Applicant(s)

BACHMANN ET AL.

Examiner

Dionne N Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 23 is/are allowed.
- 6) ☐ Claim(s) 1-8, 17-22 and 24 is/are rejected.
- 7) ☐ Claim(s) 9-14 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 recites the limitation "the shape, arrangement and direction" in lines 1-2.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3,17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima (US 6,188,775).

Claim 1, in figure 6, Azima teaches a tweeter comprising a light weight, freely carried thin sandwiched plate(2) which can be excited into multiple reflected bending waves; and at least one driver (68) wherein the driver is designed to excite at higher frequencies and the sandwich plate is designed for propagation of bending waves at low damping; the sandwich plate is freely supported by holding elements (in figure 3, see element 3) with low damping. Azima does not specifically teach that the holding elements are designed to be low damping at higher sound frequencies.

In column 4, lines 32-33, Azima teaches that the holding element (3) may damp the edges of the attached panel. Since the Applicant has failed to clearly define "low damping" or the range of frequencies which is defined by "higher sound frequencies" in the claim, these limitations have been given the broadest interpretation. Therefore, it is the Examiner's opinion that it would have been obvious for one of ordinary skill in the art at the time of the invention provide a suspension having *low damping* for the purpose of preventing excess movement in the panel at *higher frequencies*.

Claim 2, in figure 2a, Azima teaches that the sandwich plate has two cover plates(21) and a core layer(22).

Claim 3, Azima teaches a honeycomb structure.

Claim 17, Azima teaches that the holding element (3) may be inserted within a larger support structure (1).

Claim 18, Azima teaches that one side of the holding structure(3) is attached via adhesive to the sandwich plate(2) and the other side is attached to the support structure(1).

Claim 19, Azima teaches that the edge of the holding element(3) is cemented via adhesive to a cut-out of the surrounding support structure(1), as broadly claimed.

Claim 20, In figure 6, Azima teaches that the back side of the driver is a holding element to wires for connection to amplifier circuitry.

Claim 21, in figure 3, Azima teaches that the plate diaphragm(2) is designed as a support structure for element (4).

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2. Claims 4-8,22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima (US 6,188,775) in view of Azima (6,442,282).

Claims 4 and 22, Azima '775 does not clearly teach that the core layer contains a spatially different distribution of elasto-mechanical properties. In column 3, lines 58-column 4, lines 11, Azima '282 teaches that the panel can be imposed with crushing, selecting skimming etc., for the purpose of achieving variation of thickness, and therefore teaches spatially different distribution of the elasto-mechanical properties. It would have been obvious to combine the teachings of Azima '755 and Azima '282 for the purpose of achieving a desired thickness and subsequently achieving the vibrational frequency response desired.

Claim 5, Azima '282 teaches in column 4, lines 5-11, that the core layer may be provided with zonal thinning and/or cutouts.

Claim 6, in column 4, lines 10-11, Azima '282 teaches skimming which is interpreted by the Examiner as providing cut-outs/zones without necessarily changing the center of gravity, which the Examiner has interpreted as providing a pattern.

Claim 7, is rejected for the same reasons set forth in the rejections of claim 1,2 and 4-6. In column 3, lines 31-37, Azima '775 further teaches that the honeycomb matrix core layer may include a metal foil. While, in column 3, lines 65-66 and in column 4, lines 10-11, Azima '282 teaches that a variation of thickness may be achieved by contouring/profiling, which the Examiner has interpreted as embossing.

Claim 8, Azima '282 teaches that skimming, crushing or contouring the panel can be achieved without changing the center of gravity and therefore appears to teach that

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the bulges i.e., contouring/profiling is such that the maximum shear resistance is obtained in all directions.

Claim 24, In column 3, lines 31-37, Azima '775 further teaches that the honeycomb matrix core layer may include a metal foil. In Figures 4-6, Azima '775 teaches a tweeter (68,70) comprising a light weight, freely carried thin sandwiched plate(2) which can be excited into multiple reflected bending waves; and at least one driver (68) wherein the driver is designed to excite at higher frequencies and the sandwich plate is designed for propagation of bending waves at low damping; the sandwich plate is freely supported by holding elements (in figure 3, see element 3) with low damping; the sandwich plate has two thin hard cover plates (21) with a shear resistant core layer (22) between them; and that the holding element (3) may damp the edges of the attached panel for the purpose of preventing excess movement in the panel at *higher frequencies*. While Azima'282 further teaches that variation of thickness may be achieved by contouring/profiling, which the Examiner has interpreted as embossing.

Allowable Subject Matter

Claim 23 is allowed. Claims 9 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10-14 and are objected to due to dependency upon claim 9.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statements for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reached on Monday through Friday from 8:30am to 6:00pm.

Any responses to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 308-6306, for formal communications for entry

Or:

(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor(Receptionist)

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

March 22, 2004



HUYEN LE
PRIMARY EXAMINER